

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)	
)	
Service Rules for the 746-764 and)	WT Docket No. 99-168
776-794 MHz Bands, and Revisions)	
to Part 27 of the Commission's Rules)	

To: The Commission

REPLY COMMENTS OF U S WEST, INC.

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U S WEST, Inc. ("U S WEST") hereby submits its Reply Comments in response to comments filed pursuant to the Commission's *Notice of Proposed Rulemaking*¹ in this proceeding.

SUMMARY

The comments reflect broad support for allocating the 746-764 and 776-794 MHz bands for flexible, non-broadcast, commercial use. Some commenters, however, proposed earmarking some or all of this spectrum for specific uses, instead of allowing flexible use. These proposals do not serve the public interest, because they would have the Commission make decisions now on specific uses of the spectrum that would govern for years into the future, despite the tremendous rate of change in telecommunications and information services, which makes such predictions about optimal spectrum use unreliable. A market that can freely respond to consumer demands will serve those evolving demands far better than a market constrained by rules regarding permissible services and eligibility.

¹ *Service Rules for the 746-764 MHz Bands*, WT Docket 99-168, *Notice of Proposed Rulemaking*, FCC 99-97 (June 3, 1999) (*Notice*).

The only limits on a flexible use allocation should be those needed to ensure that one usage will not drive out others due to interference. Use for purposes that are non-interfering should be permitted. Thus, a licensee should be allowed to use some or all of the spectrum for a non-interfering private land mobile or fixed operation. This maximizes licensee flexibility, permits response to changing market demands, and optimally serves the public interest, consistent with the requirement of Section 303(y)(2)(A).

This flexible use policy also furthers the requirement of Section 303(y)(2)(B) that the Commission not deter investment in new services, systems, or technology. A set-aside or specific allocation policy would constrain capital expenditures, because such investments would have to be based on FCC policy determinations instead of the judgment of entrepreneurs, developers, and investors of what the market demands. Moreover, some service-specific proposals would entail very significant delays, including time-consuming advisory committee procedures to evaluate technologies, propose standards, and establish regulatory and licensing structures.

The Commission must exclude traditional broadcast operations from the flexible allocation to satisfy the interference-avoidance requirement of Section 303(y)(2)(C). The comments make clear that broadcast operations cannot coexist with low-powered applications such as third-generation commercial mobile radio service and advanced broadband two-way data services. New broadcast operations would preclude flexible use of this band because they would cause severe interference to mobile and fixed operations. Attempting to draft regulations to prevent interference under these circumstances would make the band virtually useless. Even commenters who favor allowing broadcast use of this spectrum recognize that broadcast and non-broadcast operations will not likely be able to coexist.

Commenters who urge completely unlimited use of the spectrum miss the critical point that if there are no restrictions on broadcasting, it will be difficult to assess the value of this spectrum and to make investment decisions concerning it, since broadcast use will limit how and where the spectrum can be used for other purposes. The possibility of expanded future broadcast operations will directly affect what new services can be offered. Accordingly, the Commission should preclude broadcast operations that are fundamentally incompatible with the flexible use concept because they cannot readily coexist with non-broadcast operations. Migration of broadcast activities out of this band should be accelerated, not abandoned.

The comments also show the wisdom of U S WEST's proposal to have a single nationwide 24 MHz licenses and regional 12 MHz licenses. Commenters advocated a wide variety of band plans for this spectrum, but while most advocated a single block size, U S WEST urged the Commission to allocate two different frequency block sizes, a proposal best tailored to promote innovation and competition. Each of the single-sized allocation proposals is based on the needs of a particular service. If there is only one spectrum block size, prospective bidders needing more or less spectrum will be discouraged from bidding, due to the need for post-auction aggregation or disaggregation of spectrum. Making two block sizes available will provide a better fit for a variety of services. In addition to allowing prospective bidders to determine bidding strategy with less need to ponder the uncertainties of post-auction spectrum aggregation and disaggregation, this will let manufacturers design equipment for use of an optimal amount of spectrum.

This two-block-size proposal will encourage bidders to develop a wider range of services because it will facilitate both broadband and narrower-bandwidth services. It would also recover for the public a greater proportion of the value of the spectrum auctioned, consistent with Section 309(j)(3)(C), due to the diminished need for post-auction transactions.

Finally, the comments support the issuance of national and/or regional licenses. Service providers increasingly need national or large regional footprints to respond to consumer demands, making the emergence of national and large regional networks inevitable for this frequency band. If the FCC decides to issue national and large regional licenses, it will ensure licensees a sufficiently large potential market to justify manufacturers' engaging in extensive research and development. Smaller-scale licensing would provide no assurance that large players will emerge any time soon, leading to caution on the part of investors and manufacturers.

The fact that there may be companies seeking to provide more geographically limited services should not be determinative. The Commission's policies should be tailored to serve the need for nationwide and regional service, while allowing smaller, more specialized carriers an opportunity to participate through private negotiations for service area partitioning and spectrum disaggregation. Partitioning and disaggregation has worked well in the past and will provide 700 MHz opportunities for small and rural carriers under a flexible allocation scheme as well.

DISCUSSION

I. THE 746-764 AND 776-794 MHZ BANDS SHOULD BE DEDICATED TO FLEXIBLE, NON-BROADCAST, COMMERCIAL USE

U S WEST's Comments supported the Commission's goal of making spectrum available for flexible commercial use, but made clear that broadcast usage would be inconsistent with flexible use, because typical broadcast operations would likely cause intolerable interference to other uses.² A review of the comments filed by others makes clear that there is broad support for flexible commercial use and that allowing broadcast usage of this spectrum will effectively preclude licensees from using the spectrum for non-broadcast purposes. Nevertheless, some of the commenters offer proposals that

² U S WEST Comments at 7.

would limit the flexible use of the spectrum by setting aside some or all of the bands at issue for designated services. As discussed in the following sections, a flexible use allocation for commercial non-broadcast services would serve the public interest and satisfy the objectives set by Congress.

A. Flexible Commercial Use — Rather than Special-Purpose Set-Asides — Will Allow Market Forces to Determine the Optimal Application of This Spectrum

A number of commenters proposed setting aside blocks of spectrum, or even the entire 36 MHz allocation at issue, for specialized purposes. The Consumer Electronics Manufacturers Association (“CEMA”) has proposed allocating all 36 MHz for a new “Mobile Multimedia Broadcasting Service.”³ A number of commenters proposed setting aside a portion of the band for private land mobile services.⁴ Some commenters urged the Commission to earmark spectrum for Specialized Mobile Radio service or for commercial entities providing communications capacity to particular types of users.⁵ None of these proposals ultimately serves the public interest.

All of the specialized set-aside allocation proposals suffer from a basic fault: They would have the Commission judge which specific use of the spectrum will best serve the public interest several years from now. Given the tremendous rate of change in the telecommunications and information sectors of the economy, any highly specific prediction of the optimal use of a resource is almost certain to be short-sighted if not flatly incorrect, particularly if it is made years in advance.

When such predictions result in FCC-imposed usage restrictions that limit how a licensee can respond to market forces, user demands that were not clearly anticipated will not be met. The public interest will not be served if the Commission makes forward-looking spectrum usage decisions based

³ See CEMA Comments.

⁴ See, e.g., Comments filed by American Mobile Telecommunications Association, Inc. (“AMTA”); Association of Public-Safety Communications Officials-International, Inc. (“APCO”); Industrial Telecommunications Association, Inc. (“ITA”); Motorola, Inc.; MRFAC, Inc.; Northside Plumbing Supply Inc.; Personal Communications Industry Association (“PCIA”); Union Pacific Railroad.

⁵ See, e.g., Comments filed by Southern Communications Services, Inc.; AMTA.

on its present assessment of how, in three to ten years, the market might weigh the advantages and disadvantages of a variety of yet-to-be-developed services. A market that is free to respond to consumer demands will inevitably serve those demands more optimally, as they evolve, than a market that is constrained in what services may be offered or in who is eligible to provide service.

At the same time, a flexible use allocation need not be — and should not be — completely free of limits. In order for spectrum to be used flexibly among a variety of applications, the applications must be compatible with each other in the sense that one usage will not drive out others due to interference. As discussed in the next section, this is why broadcasting operations should *not* be permitted in this band. U S WEST has no objection, however, to the use of this band for purposes that are non-interfering.

For that reason, while the allocation should be made for commercial flexible use, U S WEST would urge the Commission not to *require* licensees to engage in commercial operations — *i.e.*, sell telecommunications capacity or services to the public for a profit. Rather, licensees should be *allowed* to do so or not, as they desire, as long as they are operating within the parameters of their licenses. In other words, the fact that the spectrum allocation is made for commercial flexible use should not prevent a licensee from using some or all of the spectrum for a non-interfering private land mobile or fixed operation. This approach will maximize licensee flexibility to respond to a changing market for wireless transport capacity and services, because a licensee would be able to disaggregate and partition spectrum for use in the provision of private service, should the demand for private service outweigh the demand for commercial service. As a result, this approach optimally serves the public interest, thereby satisfying the first requirement set by Congress in Section 303(y)(2).⁶

⁶ See 47 U.S.C. § 303(y)(2)(A) (a flexible use allocation may be made if “such allocation would be in the public interest.”).

This flexible use policy would also further the second statutory factor — not “deter[ring] investment in communications services and systems, or in technology development.”⁷ Indeed, a less flexible use policy would deter such investment, because capital expenditures would be constrained by the Commission’s guess as to which use of this spectrum will best respond to consumer needs, rather than such judgments being made in the marketplace by entrepreneurs, developers, and investors. Moreover, it is clear from the comments favoring set-asides that significant delays would be required to establish rules concerning the details of the services that are to be permitted or required — indeed, one of the proposals calls for creation of an advisory committee that would “assess, evaluate and integrate the appropriate available technologies” and then recommend a technical standard and a “structure for the regulatory and administrative licensing paradigm.”⁸ Following that approach is clearly not consistent with the second statutory factor and would make it impossible for the Commission to auction the spectrum any time soon.

B. Broadcast Applications Should Not Be Permitted in This Spectrum Because of the Severe Interference Potential Posed to Other Uses

The third requirement set forth in Section 303(y)(2) — avoidance of “harmful interference among users” under a flexible use allocation⁹ — requires the Commission to exclude traditional broadcasting operations from the use of the 700 MHz band at issue in this proceeding. Some comments made clear that broadcast operations simply cannot coexist readily with low-powered applications that reuse spectrum intensively, such as third-generation commercial mobile radio service and advanced broadband two-way data services. For example, AirTouch stated:

⁷ 47 U.S.C. § 303(y)(2)(B).

⁸ See CEMA Comments.

⁹ 47 U.S.C. § 303(y)(2)(C).

While it is possible to protect *incumbent* broadcast license operations through the DTV transition period, allowing continued use for *new* broadcast services could preclude reliable ubiquitous use of this spectrum for 3G mobile services. The inherent conflicts between such disparate services will require burdensome interference protection requirements that will prevent efficient spectrum use and compromise service to the public.¹⁰

Numerous other commenters made clear that broadcasters' sharing of the spectrum used for mobile and fixed operations would cause severe interference to the latter operations. Motorola indicated that this would "undermine the inherent ability for any meaningful mobile and fixed service in the band" and that attempting to draft interference-prevention rules to cover such divergent co-channel services would "make the band virtually useless to all concerned."¹¹ Several parties point to the great difficulties that have been encountered in sharing TV channels 14-20 (470-512 MHz) with land mobile operations and the fact that such sharing can only work where the respective systems' coverage is highly localized.¹² Indeed, even commenters who favor allowing broadcast use of this spectrum acknowledge, either explicitly or implicitly, that broadcast and non-broadcast operations will not likely be able to coexist.¹³ CEMA, on the other hand, says nothing about compatibility between broadcast and two-way land mobile service; it nevertheless urges the Commission to reserve all 36 MHz for a melange of broadcast services. CEMA's proposal, while interesting, does not meet the Congressional objectives for a flexible allocation.

¹⁰ AirTouch Comments at 12-13.

¹¹ Motorola Comments at 8.

¹² See Motorola Comments at 9; AirTouch Comments at 15 & n.39, citing *Resolution of Interference Between UHF Channels 14 and 69 and Adjacent-Channel Land Mobile Operations*, 2 F.C.C.R. 7328, 7328-29 (1987).

¹³ See, e.g., Association of Maximum Service Television, Inc. ("MST") Comments at 4-10. While MST claims broadcast and non-broadcast uses can coexist, it acknowledges that the potential interference issues are so significant that it urges the Commission to award all 36 MHz of spectrum in a given area to a single licensee. Indeed, MST admits that two-way land mobile and broadcast broadband video are the "two most incompatible services" at issue and that the lack of such compatibility "has plagued the Commission for years" in land mobile/TV sharing. *Id.* at 10.

U S WEST disagrees with the commenters who urge the Commission to allow completely unlimited use of the spectrum, with no restriction on broadcasting.¹⁴ These commenters miss the critical point that if there are no restrictions on broadcasting, it will be difficult or impossible to fairly assess the value of this spectrum and to make investment decisions concerning it. This is because broadcast use of this spectrum will limit how and where licensees can use the spectrum for other purposes. While bidders at an auction or licensees making investment decisions can take incumbent broadcast operations into account, the possibility that additional broadcast operations might begin in the future, causing interference or otherwise limiting non-broadcast operations, will “directly affect the scope, viability and timing of new services which can be provided.”¹⁵

Accordingly, U S WEST urges the Commission to adopt a flexible use policy that is tempered by reason — precluding broadcast operations that are fundamentally incompatible with the flexible use concept because they cannot readily coexist with non-broadcast operations.

Accordingly, the flexible use policy should permit any terrestrial commercial use *except* broadcasting that will fit within the technical parameters established, whether it be mobile or fixed.¹⁶ The Commission should take action consistent with its longstanding policy of migrating broadcast activities out of this frequency band and in the core band of channels 2-51. Allowing so-called flexible use that would, in effect, continue to make channels 60-69 usable only for broadcasting would amount to a rescission of this carefully considered policy. U S WEST agrees with Motorola when it urges the Commission not to “introduce a complex sharing arrangement” to preserve television

¹⁴ See, e.g., Comments filed by SBC Communications, Inc. at 1-2; Walt Disney Co. at 2-3.

¹⁵ AirTouch Comments at 13.

¹⁶ U S WEST notes that its conclusion in this regard is similar to that reached by AirTouch. AirTouch principally asked the Commission to allocate the spectrum for flexible use in the commercial mobile radio services, and particularly for third-generation services. See AirTouch Comments at 6-8. U S WEST does not support limiting the flexible allocation to mobile services. AirTouch, however, notes that mixed fixed and mobile use is feasible and consistent with existing Part 22 and Part 24 rules, and accordingly “does not object” to flexible use in both fixed and mobile applications. See *id.* at 12.

broadcasting in this band, but instead to “take further steps to expedite migration of incumbent television broadcast from the band.”¹⁷

II. LICENSING LARGE BLOCKS OF SPECTRUM, SUCH AS U S WEST’S 24 MHZ NATIONWIDE / 12 MHZ REGIONAL PROPOSAL, WILL BEST SERVE THE PUBLIC INTEREST

A. Establishing 24 MHz and 12 MHz Blocks of Spectrum Will Best Facilitate Varied Uses of this Spectrum

The commenters advocated a wide variety of band plans for this spectrum, ranging from six MHz licenses up to a single 36 MHz license. Most commenters advocated a single block size; U S WEST, however, urged the Commission to allocate two different frequency block sizes — one 12 MHz block and one 24 MHz block. As U S WEST stated in its Comments, this proposal is “best tailored to achieve the Commission’s goals of promoting technological and service innovation and fostering new competition.”¹⁸

A review of the other proposals should convince the Commission that this is so. Each block size proposal is based on an assumption (explicit or implicit) that a particular amount of spectrum is best for one or another particular service.¹⁹ If the Commission allocates only a single size of spectrum block, it will be discouraging the provision of services needing more or less spectrum than the block size, because a bidder hoping to provide such services would have to find another party with whom to engage in spectrum aggregation or disaggregation in order to fine-tune the amount of spectrum to the desired service. While the use of two block sizes may not result in a perfect fit for each and every service, it provides prospective bidders with a better fit than a single block size. There will be

¹⁷ Motorola Comments at 11.

¹⁸ U S WEST Comments at 6.

¹⁹ Not surprisingly, broadcast interests favored 6 MHz blocks, reflecting the current 6 MHz television channels. *See, e.g.*, Walt Disney Comments at 2-3 (“Six megahertz blocks also are consistent with the present channelization of these spectrum blocks”); MST Comments at 8 (“6 MHz of spectrum would enable broadband service licensees to provide service to the existing and widespread base of television receivers — both analog and digital.”).

less need for spectrum aggregation and disaggregation, because the bidder will be better able to match an available block size to its requirements for the service it seeks to provide.

Given that the Commission hopes to foster new and innovative services, it would be unwise to stake everything on a single size of spectrum allocation — and particularly a size that is much too large or too small for many anticipated applications. Several commenters emphasize the need for a predictable fit between what is auctioned and what is needed, in order to plan efficiently. For example, manufacturers have to know how much spectrum to design their equipment to use, before committing the considerable funds needed for research and development,²⁰ and carriers need to know precisely what they will have acquired if they win the auction in order to make a business case to determine how much to bid.²¹ These concerns will be addressed by making post-auction adjustments to the spectrum block size less necessary.

U S WEST's proposal will facilitate services that require a broadband allocation and those needing a narrower allocation, thus encouraging bidders to develop a wider range of new services and services competing with existing services, and giving manufacturers the guidance needed to plan their product lines. This approach also has another benefit to the public: Because this would auction off a spectrum resource requiring fewer after-market transactions to optimize, it should fetch a higher price, thereby recovering for the public a greater proportion of the true value of the spectrum, consistent with Section 309(j)(3)(C), instead of providing windfalls to those acquiring spectrum for resale in after-auction transactions.

B. National and Regional Licenses Will Provide Licensees the Broad Footprint Critical to Large-Scale Deployment of New Services

U S WEST agrees with AirTouch's argument for issuing national or regional licenses:

²⁰ See Motorola Comments at 4.

²¹ See AirTouch Comments at 19.

[D]evelopments in the CMRS marketplace . . . support the adoption of large service areas. There are now numerous CMRS providers with either large regional or nationwide footprints. A CMRS provider's footprint, moreover, has become increasingly important to consumers. Larger service areas will thus facilitate additional CMRS competition²²

U S WEST believes that national and large regional networks will sooner or later become the norm for this frequency band. As the Commission has previously acknowledged, larger service areas minimize interference concerns and transactional costs;²³ they also make it easier for carriers to implement wide-area service and establish interoperable networks for seamless service.²⁴ Given the experience with cellular, PCS, SMR, paging, wireless data, and other wireless services, it is inevitable that major companies using the 700 MHz band will seek to provide service nationwide, or at least over broad regions of the country.

A decision to issue national and large regional licenses will send a necessary signal to manufacturers that there will be a sufficiently large potential market to justify extensive research and development. If the licensing of this service is conducted on a smaller scale, there is no assurance that any large players will emerge, and as a result there may be a patchwork of ownership. Motorola made clear in its comments that the establishment of a national market for equipment meeting a single standard is highly desirable:

The decision to invest resources on one project rather than another is always based on the projected return on that investment. . . . [I]f there is no consensus among operators as to what type of technology will be deployed . . . , there is no way of estimating the potential market size or the equipment costs. This leads to caution from investors who are unsure of the potential business opportunities, caution from operators who cannot raise capital without being able to describe the

²² AirTouch Comments at 19.

²³ *New Personal Communications Services*, GN Docket 90-314, *Second Report and Order*, 8 F.C.C.R. 7700, 7732 (1993).

²⁴ *Wireless Communications Services*, GN Docket 96-228, *Report and Order*, 12 F.C.C.R. 10,785, 10,814-15 (1997).

business opportunities, and caution from manufacturers who see muted interest at best in technologies for the spectrum.²⁵

There will, inevitably, also be companies seeking to provide more geographically limited services, such as rural carriers who want to complement the wireline services available in their areas. U S WEST suggests that the Commission's policies should be tailored principally to serve the need for nationwide and regional service, but should nevertheless give smaller, more specialized carriers an opportunity to participate. This is better accomplished through private negotiations for service area partitioning and spectrum disaggregation than through the use of smaller initial service areas. While the Rural Telecom Group ("RTG") claims that partitioning and disaggregation has not worked well in the cellular and PCS field,²⁶ U S WEST's experience is to the contrary. Partitioning and disaggregation does provide rural carriers with opportunities to acquire and use spectrum. U S WEST has entered into many contractual relationships with rural carriers to this end, both before and after its licenses were acquired, and it has continued to enter into such agreements with rural carriers. While partitioning and disaggregation of spectrum or service areas clearly involves costs, those costs are not so high as to discourage licensees from engaging in these activities, as the Rural Telecommunications Group suggests.²⁷ U S WEST's experience shows that license holders are willing to engage in partitioning and do not perceive that unpartitioned licenses have a higher unit value than partitioned licenses. In U S WEST's experience, rural carriers have been accommodated,

²⁵ Motorola Comments at 4.

²⁶ See RTG Comments.

²⁷ See RTG Comments at 7 (claiming that rural telecommunications carriers are often rebuffed in their attempts to acquire disaggregated spectrum in part because of the administrative cost to the licensees of doing so). U S WEST has not found that the administrative costs of partitioning and disaggregation are high, and the process does not outweigh the benefits received by U S WEST as the partitioning or disaggregating carrier. U S WEST has streamlined its processes to make the administrative tasks routine, rather than burdensome or time-consuming, and, as a result, the costs are low. The cost of administering the process is relatively low because rural carriers generally do not elect to engage in both partitioning and disaggregation simultaneously, and a variety of rural carriers are engaged in differing stages of this process at any given point. The application and filing process for this is standardized and routine, differing little from carrier to carrier.

not rebuffed. Spectrum opportunities do exist for rural carriers under the present regime, and they will exist under a flexible allocation scheme as well.

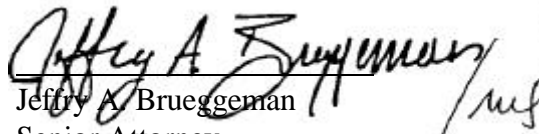
CONCLUSION

For the foregoing reasons, and as stated in its earlier Comments, U S WEST urges the Commission to authorize use of the spectrum in the 746-764 and 776-794 MHz bands for commercial non-broadcast use, under flexible technical rules, and to issue licenses for national or large regional service areas in blocks of 24 and 12 MHz. This approach will provide a competitive environment, while at the same time ensuring that licensees have a large enough footprint and enough spectrum to foster innovative uses of the spectrum that will respond to public needs.

Respectfully submitted,

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